

Recreation/Senior + Aquatic Center Expansion

Project Update Presentation | May 4, 2017

Agenda

Recreation/Senior Center Design Update
Memory Square Design Update
Sustainable Opportunities
Construction Phasing
Project Timeline

Recreation / Senior Center





Recreation/Senior Center: First Floor

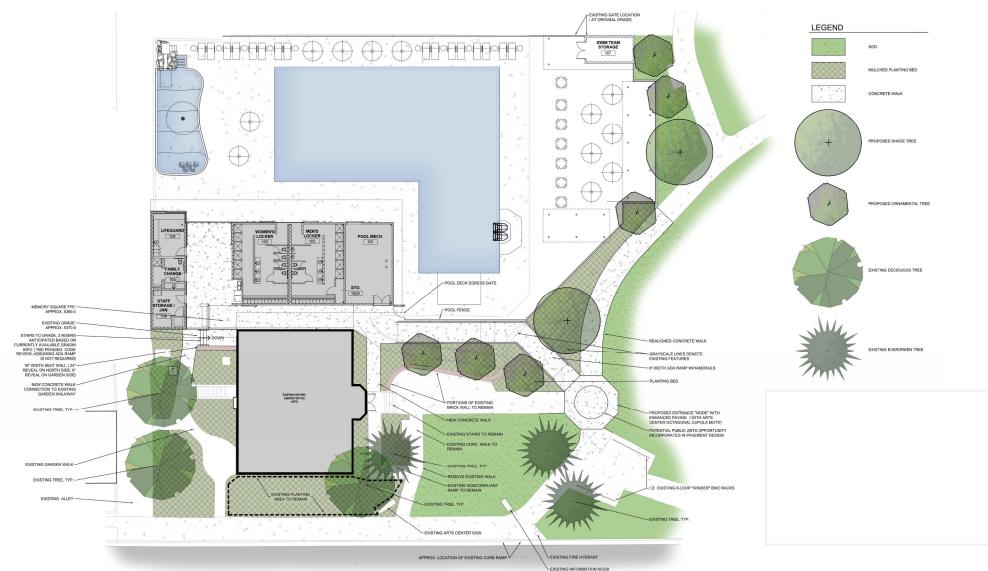


Recreation/Senior Center: Second Floor





Memory Square



Memory Square Site/Floor Plan





Sustainable Opportunities

Project Goal - Equivalent to LEED Gold

Sustainable Principles

- Site Design
- Water Conservation and Efficiency
- Energy Conservation
- Material and Resources Conservation
- Indoor Environmental Quality and Comfort
- Existing Building Analysis
- Life-Cycle Maintenance and Longevity
- Expectation for a Healthy Environment
- Renewable Energy Opportunities

Benefits of a LEED Gold Building

- High Level of Energy Performance greater than 30% water savings above ASHRAE
- High Level of Water Conservation greater than 40% water efficiency
- Resource Conservation greater than 20% recycled content
- Zero VOCs or other toxins in construction materials
- Building designed to accommodate potential solar roof array or other future renewable options



Strategies Under Evaluation in the Design Process

Sustainable Energy Efficiency Measures

Currently included:

- Limited stormwater, increased water quality
- Highly insulated building envelope
- Low-e glazing
- Daylighting and views
- Low VOC products
- Recycled content products
- Destratifying fans in large volume spaces
- Low flow, automatic plumbing fixtures
- High efficiency mechanical units
- Reduce entire building lighting by 30-50%
- Lighting occupancy sensors
- Regenerative pool filters
- Operational measures recycling, composting, etc.
- Construction measures recycle materials, etc.

Under evaluation:

- Add daylighting sensors to auto-dim lighting in areas with significant glass
- Reduce amount of interior and exterior lighting watts/ft
- Direct evaporative cooling in the gymnasium, and new pools
- Solar thermal to heat pool water
- 4-pipe hydronic heating and cooling system
- Microturbines for electrical energy production
- Photovoltaic solar panels for 25%, 50%, 75% and 100% of building power
- Ground source heat pump geothermal system for heating

Process for Energy Efficiency Measure Evaluation

Baseline energy model is complete for use in evaluation.

For Each Energy Efficiency Measure, the Design Team will:

- Estimate construction cost and assess affordability within current budget
- Evaluate both annual energy savings and annual cost savings
- Assess cost of ownership including maintenance and life-cycle replacement
- Calculate simple payback period for each measure
- Evaluate the impact on project schedule

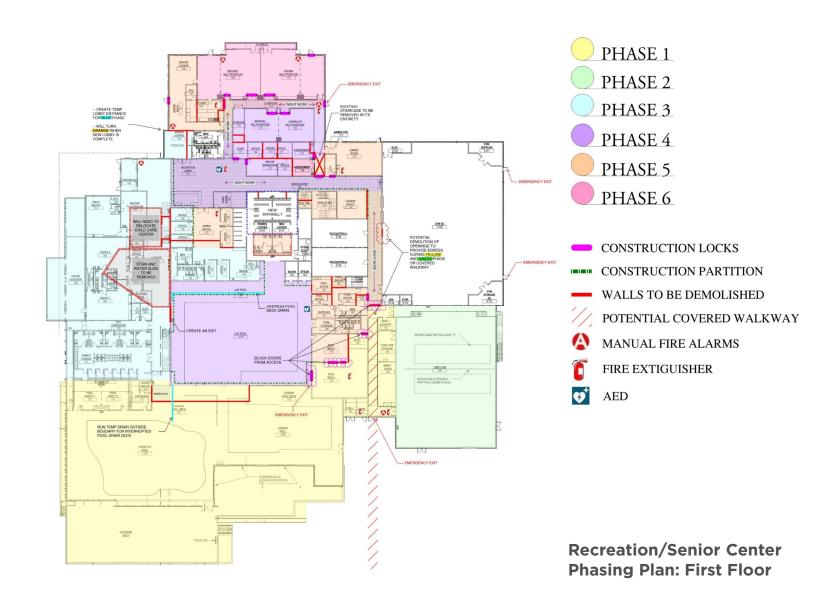
Develop a design case recommendation that combines a package of energy savings measures with the lowest payback period and the most affordable first cost.

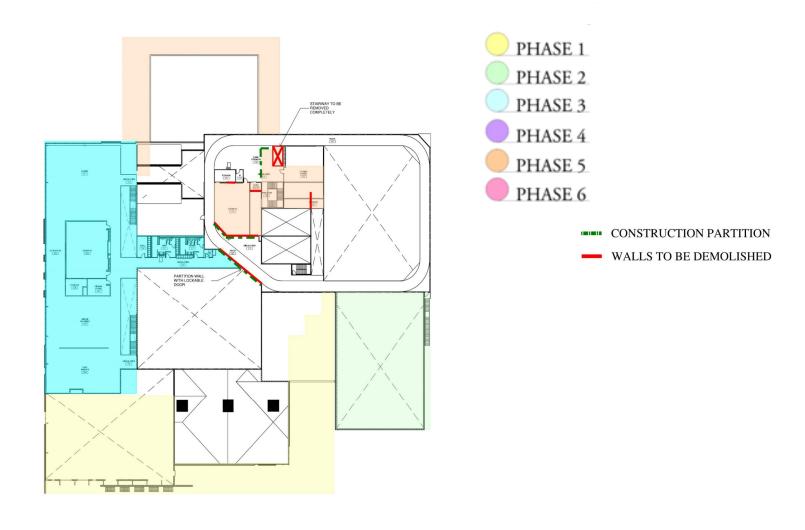
Calculate the total energy savings for the entire building over the life cycle.

Determine the amount of budget credit offered by Xcel Energy for the total energy savings projected.

Construction Phasing







Recreation/Senior Center Phasing Plan: Second Floor

Project Timeline

Overall Project Milestones

- January 2017 Public Presentation
- May 2017 Public Presentation
- Fall 2017 Public Presentation

Recreation/Senior Center Project Milestones

- Fall 2017 Recreation/Senior Center Construction Start
- Fall 2018 Recreation/Senior Center Construction Complete

Memory Square Project Milestones

- Fall 2017 Construction Start
- Spring 2018 Construction Complete

